

31 DEC 1998

FORM PTO-1390 (REV. 5-93)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER 10191/913	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/E.O./US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (If known, see 37 CFR 1.5)  <div style="font-size: 1.5em; font-weight: bold;">09/202783</div>	
INTERNATIONAL APPLICATION NO. PCT/DE97/00995		INTERNATIONAL FILING DATE (16.05.97) 16 May 1997		PRIORITY DATE CLAIMED: (20.06.96) 20 June 1996	
TITLE OF INVENTION <b>METHOD OF PERFORMING A POSTING</b>					
APPLICANT(S) FOR DO/E.O./US <b>FISCHER, Hans-Jürgen and PLUMEIER, Jörg</b>					
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/E.O./US) the following items and other information</p> <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</li> <li>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (OR/US)</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)) (Unsigned).</li> <li>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol> <p>Items 11. to 16. below concern other document(s) or information included:</p> <ol style="list-style-type: none"> <li>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input checked="" type="checkbox"/> A <b>FIRST</b> preliminary amendment.             <div style="margin-left: 20px;"> <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment             </div> </li> <li>14. <input type="checkbox"/> A substitute specification.</li> <li>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>16. <input checked="" type="checkbox"/> Other items or information: International Search Report; Preliminary Examination Report; PCT/RO/101.</li> </ol>					

EXPRESS MAIL NO. EL169613558US:

U.S. APPLICATION NO. If known, see  
37 CFR 1.5

INTERNATIONAL APPLICATION NO.  
PCT/DE97/00995

ATTORNEY'S DOCKET NUMBER  
10191/913

17. ☒ The following fees are submitted:

**Basic National Fee (37 CFR 1.492(a)(1)-(5)):**

Search Report has been prepared by the EUROPEAN PATENT OFFICE or JO \$840.00

International preliminary examination fee paid to USPTO (37 CFR 1.482) . . . \$670.00

No International preliminary examination fee paid to USPTO (37 CFR 1.482) but  
International search fee paid to USPTO (37 CFR 1.445(a)(2)) . . . . . \$750.00

Neither international preliminary examination fee (37 CFR 1.482) nor international  
search fee (37 CFR 1.445(a)(2)) paid to USPTO . . . . . \$970.00

International preliminary examination fee paid to USPTO (37 CFR 1.482) and all  
claims satisfied provisions of PCT Article 33(2)-(4) . . . . . \$95.00

CALCULATIONS | PTO USE ONLY

**ENTER APPROPRIATE BASIC FEE AMOUNT =** \$840

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(e)).

\$

Claims	Number Filed	Number Extra	Rate		
Total Claims	10 - 20 =	0	X \$18.00	\$ 0	
Independent Claims	1 - 3 =	0	X \$78.00	\$ 0	
Multiple dependent claim(s) (if applicable)			+ \$260.00	\$	

**TOTAL OF ABOVE CALCULATIONS =** \$ 840

Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement  
must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).

\$

**SUBTOTAL =** \$ 840

Processing fee of \$130.00 for furnishing the English translation later the ☐ 20 ☐ 30  
months from the earliest claimed priority date (37 CFR 1.492(f)).

+

\$

**TOTAL NATIONAL FEE =** \$ 840

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be  
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

\$

**TOTAL FEES ENCLOSED =** \$ 840

Amount to be:  
refunded \$  
charged \$

- a. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.
- b. ☒ Please charge my Deposit Account No. 11-0600 in the amount of **\$840.00** to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 11-0600. A duplicate copy of this sheet is enclosed.

**NOTE:** Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Keryon & Keryon  
One Broadway  
New York, New York 10004

SIGNATURE

Richard L. Mayer, Reg. No. 22490  
NAME

DATE

12/21/98

09/202785

300 Rec'd PCT/PTO 21 DEC 1998

[10191/913]

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor(s) : Hans-Jürgen FISCHER et al.  
Serial No. : To Be Assigned  
Filed : Herewith  
For : METHOD OF PERFORMING A POSTING  
Examiner : To Be Assigned  
Art Unit : To Be Assigned

Assistant Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

SIR:

Kindly amend the above-identified application before examination, as set forth below.

**IN THE SPECIFICATION:**

On page 1, before line 1, insert:

--FIELD OF THE INVENTION--.

On page 1, delete lines 15-24, and insert:

--BACKGROUND INFORMATION--.

On page 3, before line 11, insert:

--SUMMARY OF THE INVENTION--.

On page 3, line 11, change "The" to --An--.

On page 3, line 12, delete "of the type mentioned above,".

On page 3, before line 16, insert:

--One important application of the method is for automatic collection of tolls and other driving related fees by wireless communication between a roadside system RSS (computer station with a radio beacon) and an on-board unit OBU with an integrated circuit card ICC. The on-board terminal in the vehicle can be

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equipped with an integrated circuit card and is designed as a transponder in a known arrangement. The OBU derives the required energy from the received signal of the RSS radio beacon and sends a signal modulated with a data stream back to the radio beacon.--.

On page 3, line 16, delete "of the type".

On page 3, line 17, delete "defined in the preamble".

On page 5, delete lines 28-36, and insert:

--BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a schematic diagram of communication between a radio beacon, a computer station and a moving vehicle equipped with a terminal having an IC card.

Figure 2 shows a schematic diagram of the compact communication between the terminal and the IC card required for a posting according to the present invention.

DETAILED DESCRIPTION--.

On page 6, delete lines 1-5.

IN THE ABSTRACT:

Delete line 1, and insert:

-- ABSTRACT OF THE DISCLOSURE--.

Line 4, delete "(ICC)".

Line 5, delete "(OBU)".

Line 6, delete "(1)".

Line 8, delete "(R1)".

Line 9, delete "(ICC)".

Line 10, delete "(OBU)".

Line 11, change "(MACRO)" to --(e.g., "MACRO" signal)--.

Line 12, delete "(OBU)" and "(ICC)".

Line 14, delete "(CMD)" and "(B, L)".

Line 15, delete "(S1)".

Line 16, delete "(R1)" and "(R2)".

Line 17, delete "{1}" and "(OBU)".

Line 18, delete "(ICC)" and "(S1)".

Line 19, delete "(B, L)".

Line 20, delete "(S2)" and "(R2)".

Line 22, delete "(ICC)".

Line 23, delete "(S2)" and "{1)".

Line 24, delete "(OBU)".

Delete line 26.

**IN THE CLAIMS:**

On the first page of the claims, first line, change "Patent Claims" to  
--What Is Claimed Is:--.

Please cancel claims 1-7, without prejudice, and add new claims 8-17,  
as follows:

8. (New) A method for posting debit information to a mobile intelligent storage device using a terminal, the terminal being in a wireless, secure communication with a computer, the method comprising the steps of:

performing a mutual dynamic authenticity test between the computer, the terminal and the storage device using at least one data word, the at least one data word constantly changing;

generating the debit information using one of the computer and the terminal;

processing the debit information using the storage device;

before an interrupt-sensitive time period, transmitting a first data word of the at least one data word from the storage device to the terminal, the first data word being generated for the mutual dynamic authenticity test;

during the interrupt-sensitive time period, transmitting a particular signal from the terminal to the storage device, the particular signal including a posting triggering signal, a posting data record, an identifier generated using the first data word and a second data word of the at least one data word generated by one of the computer and the terminal;

checking the identifier, using the storage device;

posting the debit information as a function of the posting data record, using the storage device;

generating a further identifier as a function of the second data word, using the storage device;

using the storage device, transmitting a confirmation signal and the further identifier to the computer via the terminal, the confirmation signal being provided to indicate that the debit information has been posted, the confirmation signal being transmitted from the terminal to the computer one of during and outside of the interrupt-sensitive time period.

9. (New) The method according to claim 8, further comprising the step of:  
after the confirmation signal is transmitted, receiving an  
acknowledgment signal for the posted debit information from the computer by  
the terminal.

10. (New) The method according to claim 8, wherein the mobile intelligent  
storage device includes an IC card.

11. (New) The method according to claim 8, wherein the wireless secure  
communication is performed via a computer station.

12. (New) The method according to claim 8, wherein the posting data record  
includes a transaction data record for creating a log book entry in the storage  
device.

13. (New) The method according to claim 12, wherein the transaction data  
record is supplemented by an acknowledgment signal which is transmitted  
outside of the interrupt-sensitive time period.

14. (New) The method according to claim 12, wherein the storage device is  
formed using a plurality of page records for storing the debit information, and  
the method further comprising the steps of:

temporally storing the transaction data record during the interrupt-  
sensitive time period on a particular page record of the plurality of page  
records; and

outside of the interrupt-sensitive time period, transmitting the  
transaction data record to a log book data file.

15. (New) The method according to claim 14, further comprising the step of:  
until the transmitting of the transaction data record to the log book data  
file is performed, blocking the storage device for posting the debit information.

16. (New) The method according to claim 8, wherein the method is utilized to post use fee debit information.

17. (New) The method according to claim 16, wherein the method is utilized to collect a toll for a motor vehicle.

#### Remarks

This Preliminary Amendment cancels, without prejudice, claims 1-7 in the underlying PCT Application No. PCT/DE97/00995, and adds new claims 8-17. The new claims conform to the claims to U.S. Patent and Trademark Office rules and do not add new matter to the application.

The above amendments to the specification and abstract are to conform the specification and abstract to U.S. Patent and Trademark Office rules or to correct informalities, and do not introduce new matter into the application.

The underlying PCT Application No. PCT/DE97/00995 includes an International Search Report, dated November 11, 1997. The Search Report includes a list of documents that were uncovered in the underlying PCT Application. A copy of the Search Report is included herewith.

The underlying PCT Application also includes an International Preliminary Examination Report, dated May 6, 1998, a copy of which is included herewith.

Applicants assert that the subject matter of the present application is new, non-obvious, and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,

By: *Richard L. Mayer*  
Reg No 35,952

Dated: 12/21/98

By: *Richard L. Mayer*  
Richard L. Mayer  
Reg. No. 22,490

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## METHOD OF PERFORMING A POSTING

The present invention relates to a method of performing a posting on a mobile intelligent storage device, in particular an IC card, with the help of a terminal which has secure wireless communication with a computer, preferably via computer stations, with a mutual dynamic authenticity test being performed between the computer or terminal and the storage device using a constantly changing data word, debit posting information being generated by the computer or terminal and processed and acknowledged by the storage device, the terminal subsequently sending a confirmation signal to the computer that the debit posting has been performed and optionally receiving an acknowledgment signal for the posting which has been performed.

One important application of such a method is for automatic collection of tolls and other driving related fees by wireless communication between a roadside system RSS (computer station with a radio beacon) and an on-board unit OBU with an integrated circuit card ICC. The on-board terminal (OBU) in the vehicle can be equipped with an integrated circuit card and is designed as a transponder in a known arrangement. The OBU derives the required energy from the received signal of the RSS radio beacon and sends a signal modulated with a data stream back to the radio beacon.

Numerous posting systems with IC cards are known, with the posting taking place as a secure operation by a mutual authenticity test between the terminal and the IC card. First a posting signal is generated by the terminal, selecting the posting application on the IC card. After receiving confirmation by the IC card that the selection has been performed, the terminal generates a random number and transmits it to the IC card. Using the random number with the stored signature, the IC card forms an identifier and transmits it to the terminal. The terminal extracts the IC

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card signature from the signal and can thus recognize that the IC card is authorized for operation with the respective terminal. For reverse authenticity testing, the IC card then generates an additional number and transmits it to the  
5 terminal. With the random number and its own signature, the computer communicating with the terminal forms an identifier which is received and verified by the IC card. After mutual authenticity verification, the computer queries the IC card via the terminal to determine the money value carried on the  
10 card. A new money value is calculated from the resulting information and entered into the IC card via a write signal. The entry operation is acknowledged by the IC card, with the acknowledgment signal being sent to the computer. The device may optionally cause the new money value to be read out again  
15 for comparison with the calculated money value.

This posting method thus presupposes at least six transmissions in both directions. The posting operation requires several hundred ms, which is not generally critical,  
20 because usually enough time is available and the mutual transmissions are not at risk of interruptions during this period of time.

However, the situation is completely different for many  
25 applications, in particular for collecting tolls from fast-moving vehicles. The wireless microwave connection between the on-board unit and the roadside stationary radio beacon may be interrupted and must be concluded within a very short period of time. The entire payment transaction must be concluded  
30 within a short period of time between 50 and 100 ms. In addition, communication between the terminal and the IC card is possible only if there is a radio connection with the radio beacon, if the terminal is designed as a transponder and therefore receives its power supply from the radio beacon  
35 signals received.

As a result, communication between the terminal and the IC

card during the debit posting procedure is susceptible to interference in the radio connection. For high speed posting, it is therefore of crucial importance for communication between the terminal and IC card to take place in the shortest possible period of time, because an interruption in communications requires either that communication be resumed with the same terminal or that all terminals be networked. Neither requirement is usually met with toll collecting systems for urban public transportation, for example.

The object of the present invention is thus to provide a posting method of the type mentioned above, which will permit high speed processing and will have only a short period of time during which it is sensitive to interruption.

This problem is solved on the basis of a method of the type defined in the preamble by a first data word, generated for a dynamic authenticity test, being transmitted from the storage device to the terminal before an interrupt-sensitive period of time; a single signal being transmitted from the terminal to the storage device during the interrupt-sensitive period of time, said signal containing a posting triggering signal, a posting data record, an identifier generated using the previously transmitted first data word and a second data word generated by the terminal, whereupon the storage device checks the identifier, performs the posting according to the posting data record and generates its own identifier using the second data word, and an actuating signal for the posting performed is transmitted to the computer together with its generated identifier via the terminal, and confirmation that the posting has been performed is transmitted from the terminal to the computer optionally inside or outside the interrupt-sensitive period of time.

The present invention is based on the fact that the sequential communications that were customary in the past for mutual authenticity testing, for selecting the application and for

performing the posting can be combined into a single command signal. Accordingly, the communication performed during the interrupt-sensitive period of time is reduced to a signal transmitted from the computer or terminal to the IC card and a  
5 signal transmitted back from the IC card to the computer or terminal, the latter signal being generated after the processing operations on the IC card. The prerequisite for this communication is prior transmission of a first data word from the storage device to the terminal, with the first data  
10 word being either time information or a random number. Furthermore, the debit posting procedure can be completed outside the interrupt-sensitive period of time by the subsequent confirmation for the posting from the terminal to the computer to be performed. The mutual authenticity test is  
15 performed regularly between the computer and the storage device with the terminal in between. However, it is also conceivable for an authenticity test to be performed only between the terminal and the storage device and for the computer to only be notified of the result of the test either  
20 explicitly or implicitly.

In a preferred embodiment of the present invention, the posting data record also contains a transaction data record for creating a log book entry in the storage device. In this  
25 way a complete log book documenting all transactions and fee amounts is generated in the storage device.

The transaction data record in the storage device is advantageously supplemented by the acknowledgment signal from  
30 the computer transmitted outside the interrupt-sensitive period of time. Without this acknowledgment signal, the transaction data record is only provisional.

The IC cards preferably used as the storage device often have  
35 a non-volatile memory (EEPROM) which is organized physically page by page. Writing to such a memory is time-consuming and is possible only for one page. Above the physical level there

is a logic organization into data files by the IC card operating system. The data file containing the data affected by a posting, i.e., usually a data file for a money account, is usually set up separately from the log book data file.

5 Access to the money account data file and the log book data file therefore traditionally requires at least two time-consuming physical write accesses to the non-volatile storage device. For the purpose of a high speed posting procedure according to the present invention, it is therefore extremely  
10 advantageous in one embodiment of the method according to the present invention if the (provisional) transaction data record is stored on the page where the data which is subject to the posting is located and if the transmission to a log book data file takes place outside the interrupt-sensitive period of  
15 time. To ensure that this transmission to the log book data file will always take place, an automatic status register may be implemented on the IC card, permitting a new debit posting only after the transfer to the log book data file has been made. As an alternative to this, transmission of the last  
20 transaction data record may be performed automatically first when a new debit posting is made. However, this would be associated with a time disadvantage.

With today's technology, the time-critical posting procedure  
25 between the terminal and the storage device can be accelerated to more than 150 kbps.

#### Brief Description of the Drawings

30 The present invention will be explained in greater detail below on the basis of one embodiment illustrated in the figures, which show:

Figure 1: a schematic diagram of communication between a radio  
35 beacon, a computer station and a moving vehicle equipped with a terminal having an IC card;

Figure 2: a schematic diagram of the compact communication between the terminal and the IC card required for a posting according to the present invention.

## 5 Detailed Description

Figure 1 shows a roadside computer station 1 with a radio beacon 2 with which it communicates with a moving vehicle 3. For this purpose, the moving vehicle is equipped with an on-board terminal OBU whose fee credit is stored on an integrated circuit card ICC.

When driving through the communication range, which amounts to about 4.5 meters in the present case, the road toll is to be deducted from the credit on IC card ICC, i.e., posted to the credit account of IC card ICC.

The required communication sequence calls for an initiation signal of radio beacon 2, to which terminal OBU responds with a service request signal. Then radio beacon 2 generates a debit order signal which is transmitted from terminal OBU to IC card ICC as a debit command. After the debit posting has been performed, the IC card generates a receipt acknowledgment signal, which is transmitted from terminal OBU to radio beacon 2 on the basis of an initiation signal of radio beacon 2. Proper receipt of the acknowledgment signal is then confirmed by radio beacon 2 as acknowledge whereupon terminal OBU transmits the acknowledgment signal to the IC card to complete a transaction data record, and the IC card makes the information available for the next service request by terminal OBU.

The time-critical part of this communication is from the creation of the debit order by radio beacon 2 until transmission of the acknowledgment signal to terminal OBU.

This communication which is susceptible to interference is

executed within an extremely short period of time according to the present invention due to the fact that a MACRO signal is relayed from terminal OBU to IC card ICC according to Figure 2, with the MACRO signal containing a selection signal for  
5    respective application APPL (posting), a posting triggering signal CMD, posting amount B, its own signature S1 and a generated random number R2. Furthermore, the MACRO signal preferably also contains a provisional transaction data record L for creating log book information in IC card ICC.

10   Transaction data record and posting amount B together form a posting data record.

Signature S1 is preferably transmitted in encoded form using a first data word R1 which was previously transmitted from IC  
15   card ICC to terminal OBU in the form of a time signal or a random number.

IC card ICC selects the application according to APPL, checks signature S1 and posting amount B, calculates and writes the  
20   new money value in the money account data file and log book information L, thereby performing the posting. Furthermore, IC card ICC calculates a second identifier with the help of its own signature S2 using second data word R2 generated by terminal OBU, said data word also being either a random number  
25   or time information.

After these operations have been performed, the IC card transmits an acknowledgment signal and the second identifier  
30   with signature S2 to terminal OBU. The acknowledgment signal is sent from terminal OBU to radio beacon 2, i.e., to computer 1, which checks and acknowledges the authenticity of IC card ICC.

The provisional transaction data record in IC card ICC is  
35   completed by a confirmation signal from computer 1 for receipt of the acknowledgment signal for the posting performed.

The acknowledgment signal from computer 1 can be used to transfer the transaction data record stored in the IC card temporarily to a log book data file.



## Patent Claims

1. Method of performing a posting to a mobile intelligent storage device, in particular an IC card (ICC), with the help of a terminal (OBU) engaging in wireless, secure communication with a computer (1), preferably via computer stations, with a mutual dynamic authenticity test being performed between the computer (1), terminal (OBU) and the storage device (ICC) using a constantly changing data word (R1, R2), the debit posting information being generated by the computer (1) or terminal (OBU) and processed and acknowledged by the storage device (ICC), whereupon the terminal (OBU) sends a confirmation signal for performing the posting to the computer (1) and optionally receives an acknowledgment signal for the debit posting thus made, characterized in that before an interrupt-sensitive period of time, a first data word (R1) generated for a dynamic authenticity test is transmitted from the storage device (ICC) to the terminal (OBU); during the interrupt-sensitive period of time, a single signal (MACRO) is transmitted from the terminal (OBU) to the storage device (ICC), said MACRO signal containing a posting triggering signal (CMD), a posting data record (B, L), an identifier (S1) generated using the previously transmitted first data word (R1), and a second data word (R2) generated by computer (1) or terminal (OBU), whereupon the storage device (ICC) checks the identifier (S1), performs the posting according to the posting data record (B, L) and generates its own identifier (S2) using the second data word (R2), said storage device (ICC) then transmitting a confirmation signal for the posting performed together with its generated identifier (S2) to computer (1) via the terminal (OBU), confirmation that the posting has been performed being transmitted from the terminal (OBU) to the computer (1) either inside or outside the interrupt-sensitive period of time.

2. Method according to Claim 1, characterized in that the posting data record (B, L) includes a transaction data record (L) for creating a log book entry in the storage device (ICC).
3. Method according to Claim 1 or 2, characterized in that the transaction data record (L) in the storage device (ICC) is supplemented by the acknowledgment signal transmitted outside the interrupt-sensitive period of time.
4. Method according to Claim 2 or 3, characterized in that the transaction data record (L) is stored temporarily during the interrupt-sensitive period of time on the page in a storage device organized by pages where the data subject to posting is located, and the transmission to a log book data file takes place outside this period of time.
5. Method according to Claim 4, characterized in that the storage device (ICC) is blocked for posting as long as a transaction data record (L) stored temporarily has not been transferred to the log book data file.
6. Method according to one of Claims 1 through 5 for posting use fee debits.
7. Method according to Claim 6 for collecting tolls for motor vehicles (3).

## Abstract

In a method of performing posting on a mobile intelligent storage device, in particular an IC card (ICC), with the help of a terminal (OBU) which has wireless, secure communication with a computer (1), preferably via computer stations, a high speed debit posting can be achieved with a low risk of interruption by transmitting a first data word (R1) generated for a dynamic authenticity test from the storage device (ICC) to the terminal (OBU) before an interrupt-sensitive period of time, transmitting a single signal (MACRO) from the terminal (OBU) to the storage device (ICC) during the interrupt-sensitive period of time, said MACRO signal containing a posting triggering signal (CMD), a posting data record (B, L), an identifier (S1) generated using the previously transmitted first data word (R1) and a second data word (R2) generated by the computer (1) or the terminal (OBU), whereupon the storage device (ICC) tests the identifier (S1), performs the posting as per the posting data record (B, L) and generates its own identifier (S2) using the second data word (R2), a confirmation signal for the posting performed being transmitted by the storage device (ICC) together with its generated identifier (S2) to computer (1) via the terminal (OBU).

(Figure 2)

NY3-49062-1

1 / 1

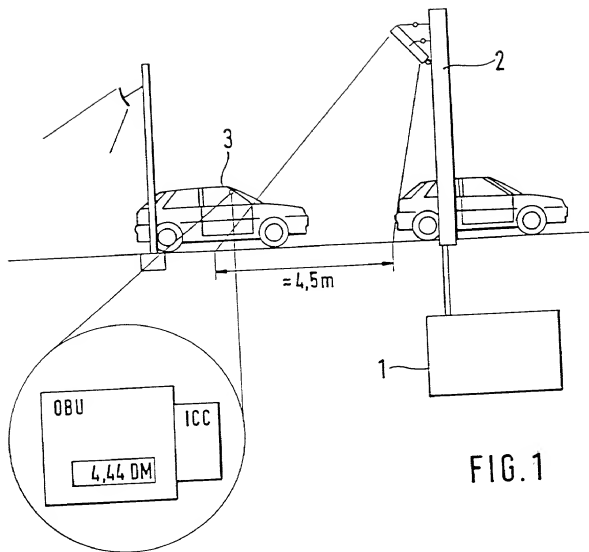


FIG. 1

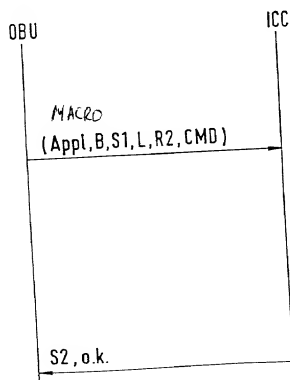


FIG. 2

[10191/913]

**DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **METHOD OF PERFORMING A POSTING**, for which an application for Letters Patent was filed as PCT International Application Number **PCT/DE97/00995** on May 16, 1997.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**PRIOR FOREIGN APPLICATION(S)**

Number	Country filed	Day/month/year	Priority Claimed Under 35 USC 119
1 96 24 602.4	Germany	20 June 1996	Yes

2 And I hereby appoint Richard L. Mayer (Reg. No. 22,490) and Gerard A. Messina (Reg. No. 35,952) my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issued thereon.

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